ABSTRACT OF THE DISCLOSURE

A primary label switched path (LSP) defined in a label switching network has a protected portion for transmitting data packets containing a label stack from a first label switching node to a second label switching node, the protected portion including at least one intermediate label switching node between the first and second nodes. To provide path recovery resources in case of link or node failure, it is proposed a method in which a backup LSP is defined from the first node to the second node. A transformation of the label stack of a packet transmitted along the protected portion of the primary LSP from an output of the first node to an input of the second node is determined. The first node is configured to switch a packet to the backup LSP upon detection of a failure in the protected portion of the primary LSP. In addition, a node of the backup LSP is configured to process the label stack of any packet transmitted along the backup LSP so as to apply the determined transformation.